

NEW SPECIES AND DESCRIPTIONS OF STONEFLIES (PLECOPTERA) FROM OKLAHOMA¹

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In the course of a study of Oklahoma Plecoptera (Stark, 1972), two undescribed species and the undescribed adult stage for two additional species were discovered. Their descriptions are presented in this paper.

Zealeuctra cherokee NEW SPECIES

Male (Fig. 1)—Length of body 6 mm; to tip of wings, 7.5 mm. Cleft of the ninth tergite heavily sclerotized around the margins, broadly rounded anteriorly, terminating behind in blunt incurved points on either side, and with a smaller subterminal point on either side, and with a smaller subterminal point on either side of the margin. Tenth tergite unsclerotized mesally except for a small area extending anteriorly to the ninth. Epiproct (Fig. 2) somewhat similar to *Zealeuctra narfi* (Ricker & Ross, 1969), the spine thin, acute, and without extra cusps. Cerci (Fig. 3) generally similar to *Zealeuctra warreni*, but with basal lobe broader and not as high. Length of the vesicle of the ninth sternite 1.5 times its width.

Female (Fig. 4)—Length of body 7 mm; to tip of wings, 8.5 mm. Similar to *Zealeuctra washita*, but the terminal lobe of the seventh sternite is longer and its lateral margins gradually converge posteriorly, then diverge near the apex. In addition, the sclerotized bar along the anterior margin of the eighth sternite bears two distinctly darker triangular areas at each end.

Holotype male, allotype female and three male and female paratypes—type locality: two miles west of Vian, Sequoyah County, Oklahoma, February 13, 1972, Stark. Holotype (USNM #72425) and allotype deposited at the United States National Museum, Washington, D. C. Paratypes are deposited with the Illinois Natural History Survey and the North Texas State University Museum.

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Paratypes—Oklahoma: *Adair Co.*, 10 miles south of Stillwell, February 13, 1972, Stark, 5♂, 1♀; same data, February 20, 1972, 6♂, 9♀. *LeFlore Co.*, Polk Creek, Poteau, February 19, 1972, Stark 1♀. *Pushmataha Co.*, Hardy Creek, 9 miles south of Clayton, February 12, 1972, Stark, 1♀. *Sequoyah Co.*, 2 miles west of Vian, February 20, 1972, Stark, 2♂.

This species was discovered in the Cherokee portion of the Indian Nation and is named in honor of that tribe.

Isoperla ouachita NEW SPECIES

Male (Fig. 5)—Length of body 7 mm; to tip of wings, 9 mm. General color pale yellow with darker brownish areas. Pronotum brown except for a median, pale longitudinal stripe. Dorsum of head with a dark area joining all three ocelli and extending forward to the anterior margin of the head, but with a pale longitudinal stripe extending forward from the median ocellus (Fig. 6). Subanal lobes weakly developed, not projecting over the ninth tergite. The eighth sternite bears a short, indistinct lobe in the middle of the posterior margin.

Female—Generally similar to male in coloration, but slightly larger in size. The eighth abdominal sternite is triangularly produced over much of the ninth and bears a small terminal nipple (Fig. 7).

Naiad—General color of dorsum pale brown with small darker areas. Numerous short, dark setae covering dorsum. Pronotum pale with dark margin, head with markings as in Fig. 8. Abdominal tergites pale with darker lateral longitudinal stripes, and two lateral, and a median double row of dark freckle-like spots. Mature naiads with body length of 9 mm.

Holotype male, allotype female, and five male and female paratypes—type locality: Pine Creek, 13 miles east of Hartshorne, Latimer Co., Oklahoma, April 10, 1971, Stark. Holotype (USNM #72424) and allotype are deposited at the United States National Museum, Washington, D. C. Paratypes are deposited with the Illinois Natural History Survey and the North Texas State University Museum.

Paratypes—Oklahoma: *Latimer Co.*, Turkey Creek, 6 miles east of Red Oak, April 8, 1971, Stark, 5♂, 3♀. *LeFlore Co.*, Caston Creek, 5 miles east of Fanshawe, April 9, 1971, Stark, 1♂, 1♀.

This species is named after the mountain range in which it was discovered.

Strophopteryx cucullata Frison

Strophopteryx cucullata Frison (1934). Original description, ♀.

Frison (1934) described this species on the basis of a single female collected in southeastern Oklahoma. Since the male has not been previously recognized, a brief description is given here.

Male—Posterior margin of the head with numerous small dark brown markings. Ocelli joined by a solid dark area and with a distinctive V-shaped dark area extending forward of the median ocellus. Dorsum of abdomen brown with small membranous areas visible along the lateral margins of the middle segments. Wings banded, a clear stripe extending across the forewing at the cord. Morphologically similar in most respects to *Strophopteryx fasciata*, but with the epiproct shorter and the membranous hind portion more globular (Fig. 9). The upturned hind margin of the ninth sternite is neither strongly narrowed nor excavated as in *fasciata*. The subanal lobes are complex and asymmetrical and there are no lobes on the hind margin of the ninth tergite.

Allotype male and 17 male and 19 female specimens—Polk Creek, Poteau, LeFlore Co., Oklahoma, March 8, 1972, Stark. The allotype is deposited with the United States National Museum, Washington, D. C. Additional specimens are deposited with the Illinois Natural History Survey and the North Texas State University Museum.

Isogenus (*Helopicus*) nalatus (Frison)

Hydroperla nalata Frison (1942). Original description, ♂, naiad.

Isogenus (Helopicus) nalatus (Frison): Ricker (1952).

Since the female of this species has not been previously recognized, a brief description is given here based on a single reared specimen.

Female—General color pattern similar to the male. Venter with transverse dark markings on mesosternum and metasternum and a smaller dark area at the base of the metasternal Y-ridge. Subgenital plate (Fig. 10) similar to *Isogenus subvarians*, smoothly rounded and covering half of the ninth sternite. Wings hyaline with no trace of dark markings in the anal area. Body length 22 mm; to tips of wings, 24 mm.

Allotype female—Flint Creek, Flint, Delaware Co., Oklahoma, February 13, 1972, Stark. The allotype female is deposited at the United States National Museum, Washington, D. C.

ACKNOWLEDGMENTS

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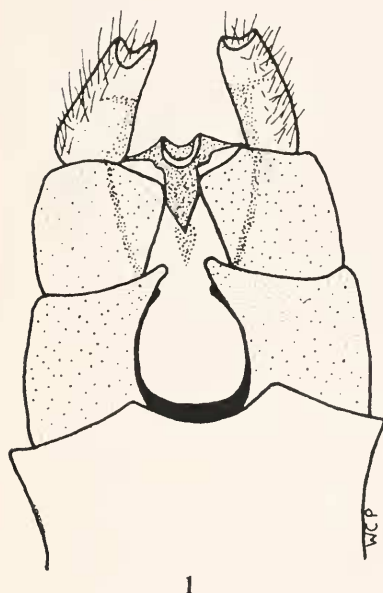
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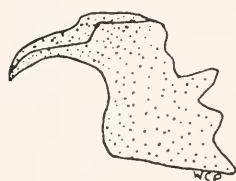
NEW SPECIES AND DESCRIPTIONS OF STONEFLIES (PLECOPTERA) FROM OKLAHOMA

ABSTRACT—Descriptions are provided for two species of Plecoptera new to science, *Zealeuctra cherokee* and *Isoperla ouachita* and for the previously undescribed male of *Strophopteryx cucullata* Frison and female of *Isogenus (Helopicus) nalatus* (Frison).

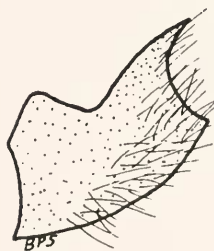
Descriptors—Plecoptera; Leuctridae, Perlodidae, Taeniopterygidae; *Zealeuctra*, *Isoperla*, *Strophopteryx*, *Isogenus*, *Helopicus*; new species: *Zealeuctra cherokee*, *Isoperla ouachita*; new descriptions: *Strophopteryx cucullata* male, *Isogenus (Helopicus) nalatus* female.



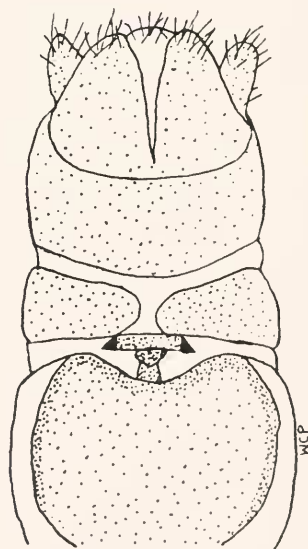
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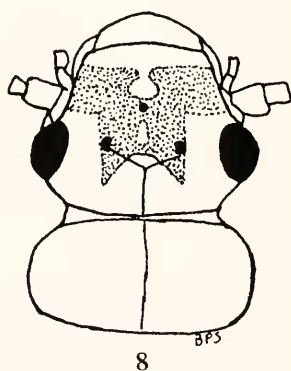
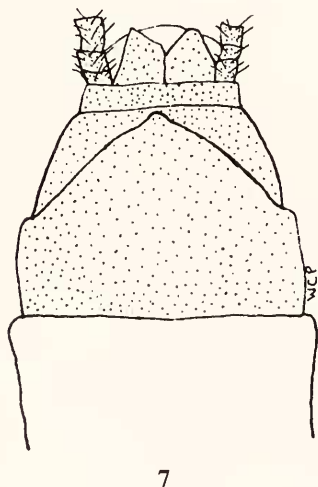
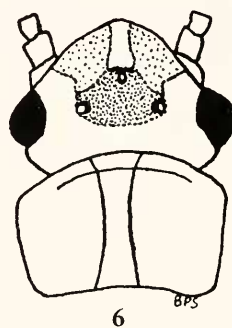
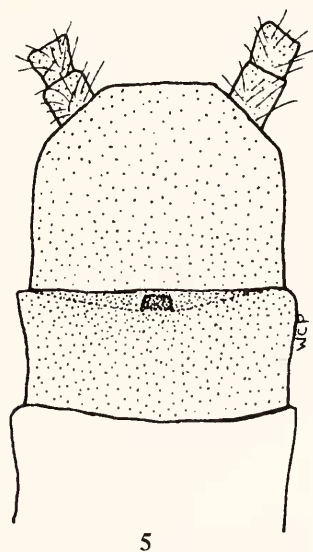


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Figures 1-4. *Zealeuctra cherokee*. Fig. 1. Male terminal segments from above, Fig. 2. Male epiproct from the side, Fig. 3. Male cercus from the side, Fig. 4. Female terminal segments from below.



Figures 5-8. *Isoperla ouachita*. Fig. 5. Male terminal segments from below. Fig. 6. Male head and pronotum. Fig. 7. Female terminal segments from below. Fig. 8. Naiad head and pronotum.

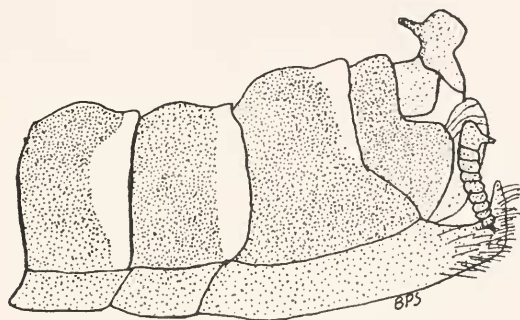


Figure 9. *Strophopteryx cucullata*. Male terminal segments from the side.

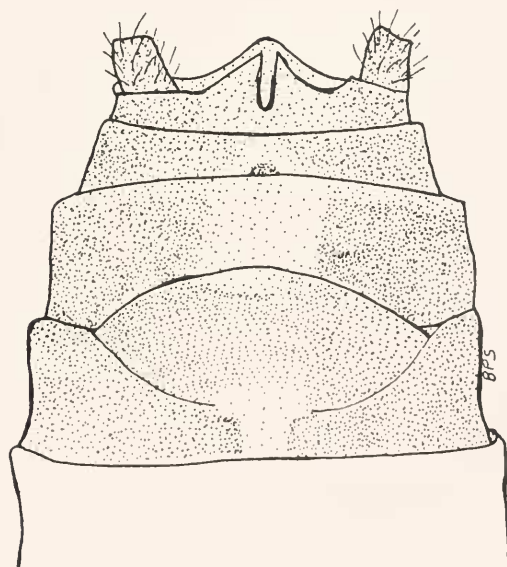


Figure 10. *Isogenus (Helopicus) nalatus*. Female terminal segments from below.